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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,443	01/22/2002	Shaul Dar	24587-013	7940

30623 7590 04/06/2005

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EXAMINER	
SERRAO, RANODHI N	
ART UNIT	**PAPER NUMBER**
2141	

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/055,443	DAR ET AL.	
	Examiner	Art Unit	
	Ranodhi Serrao	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 January 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-112* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-112* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/28/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-112 are rejected under 35 U.S.C. 102(b) as being anticipated by Krishnaswamy et al. (5,867,494)

As per claim 1, Krishnaswamy et al. teaches a database area network (DAN) system comprising: a plurality of database management systems adapted for providing access to database data (column 19, lines 48-62); a shared storage system, connected to said database management systems for storing said database data (column 268, lines 34-44); a database switching system adapted for directing the transfer of data packets between at least one database client and said database management systems (column 15, line 63-column 16, line 15).

As per claim 2, Krishnaswamy et al. teaches wherein said database switching system includes a switching device adapted for switching or routing said data packets between said at least one database client and said database management systems (column 93, lines 6-30).

As per claim 3, Krishnaswamy et al. teaches wherein said database switching system is adapted for translating a network destination address of a database service request received from a database client to a network destination address of a database management system (column 103, lines 38-57).

As per claim 4, Krishnaswamy et al. teaches wherein said translated network destination address of a database service is a network layer addresses or data link layer addresses (column 93, lines 6-30).

As per claim 5, Krishnaswamy et al. teaches wherein said network destination address of a database service is translated from a virtual network address to an actual network destination address (column 101, lines 22-49: wherein the IP address serves the function of an actual network destination address).

As per claim 6, Krishnaswamy et al. teaches wherein said database switching system includes a routing or switching device adapted to provide data packet routing or switching functions (column 15, line 62-column 16, line 15) and said routing or switching functions can be controlled using a command line interface procedure or a network management protocol (column 15, lines 51-62).

As per claim 7, Krishnaswamy et al. teaches wherein said database switching system includes a redirection module adapted for relocating a database instance from a first database server to a second database server (column 19, lines 48-62: wherein a call serves the function of an instance).

As per claim 8, Krishnaswamy et al. teaches wherein said database switching system includes a resource management module adapted for managing an association between database instances and database servers (column 19, lines 48-62: wherein an automatic call distribution serves the function of a resource management module).

As per claim 9, Krishnaswamy et al. teaches wherein said resource management module further includes a data storage device and is adapted for storing server

resource information or database instance requirements in said data storage device (column 41, line 64-column 42, line 9).

As per claim 10, Krishnaswamy et al. teaches wherein said resource management module is further adapted for managing the association between database instances and database servers as a function of the server resource information or the database instance requirements (column 19, lines 48-62: wherein an automatic call distribution serves the function of a resource management module).

As per claim 11, Krishnaswamy et al. teaches wherein said resource management module is adapted for storing constraints or preferences regarding database instance redirection in said data storage device (column 37, lines 9-18).

As per claim 12, Krishnaswamy et al. teaches wherein said resource management module is further adapted for managing the association between database instances and database servers as a function of said constraints or preferences regarding database instance redirection stored in said data storage device (column 37, lines 9-18).

As per claim 13, Krishnaswamy et al. teaches wherein said database switching system further includes a module adapted for relocating a database instance from a first database server to a second database server as a function of defined database performance criteria (column 19, lines 48-62: wherein a call serves the function of an instance).

As per claim 14, Krishnaswamy et al. teaches wherein said database switching system includes a database switching module adapted for associating database services with network addresses (column 268, lines 34-44).

As per claim 15, Krishnaswamy et al. teaches wherein said network addresses are virtual network addresses (column 101, lines 22-49: wherein the IP address serves the function of an actual network destination address).

As per claim 16, Krishnaswamy et al. teaches wherein said network addresses are network layer addresses or data link layer addresses (column 93, lines 6-30).

As per claim 17, Krishnaswamy et al. teaches wherein said database switching system is adapted for directing the transfer of data packets between said database clients and said database management systems as a function of the associations between said database services and said network addresses (column 15, line 63-column 16, line 15).

As per claim 18, Krishnaswamy et al. teaches wherein said database switching system is adapted for directing the transfer of data packets between said database clients and said database management systems by replacing a network address of said data packet containing a service request with the network address associated with that service (column 15, line 63-column 16, line 15).

As per claim 19, Krishnaswamy et al. teaches wherein the network address of said data packet containing a service request is a virtual network address (column 103, lines 38-57) and said virtual network address is replaced with a real network address

associated with said service (column 101, lines 22-49: wherein the IP address serves the function of a real network address).

As per claim 20, Krishnaswamy et al. teaches wherein the network address of said data packet containing a service request is for a network address on a first subnetwork and said network address is replaced with a network address associated with said database service on a second subnetwork (column 93, lines 6-30).

As per claim 21, Krishnaswamy et al. teaches wherein said database switching system includes a content switch adapted to read at least a portion of the contents of packets transferred between said at least on database client and said database management systems (column 93, lines 6-30).

As per claim 22, Krishnaswamy et al. teaches wherein said database switching system includes a network device adapted for routing or switching data packets across said database area network (column 15, line 63-column 16, line 15), said network device including network management means for managing routing or switching functions of the network device (column 93, lines 6-30) and said database switching module is adapted to use said network management means to control the routing or switching functions of the network device (column 19, lines 48-67).

As per claim 23, Krishnaswamy et al. teaches wherein said network device is adapted to provide real time routing of data packets across said database area network with low latency (column 55, lines 8-15).

As per claim 24, Krishnaswamy et al. teaches wherein said network device is adapted to provide real time routing of data packets across said database area network with high bandwidth (column 22, lines 59-63).

As per claim 25, Krishnaswamy et al. teaches wherein said database switching module is adapted for dynamically establishing said associations between database services and network addresses (column 133, lines 30-32), and for automatically communicating the establishment or modification to said associations to said network device (column 131, lines 17-22), whereby said database area network continues to function if said database switching module stops operating (column 133, lines 13-20).

As per claim 26, Krishnaswamy et al. teaches wherein said database switching module stops operating because of a failure of said database switching module or a connection between said database switching module and said network device (column 133, lines 11-15).

As per claim 27, Krishnaswamy et al. teaches wherein said database switching module stops operating because it is taken out of service for modification or upgrade (column 133, lines 9-17: wherein changing the channel structure serves the function of modification).

As per claim 28, Krishnaswamy et al. teaches wherein said database switching device is further adapted for dynamically associating database services with network addresses as a function of predefined resource management objectives (column 133, lines 30-32).

As per claim 29, Krishnaswamy et al. teaches wherein said resource management objectives are selected from the group consisting of load balancing, quality of service, high availability and scalability (column 45, lines 44-51 and column 34, lines 17-20 and column 43, lines 48-52 and column 186, lines 35-48).

As per claim 30, Krishnaswamy et al. teaches wherein said database services are executed on a plurality of database servers corresponding to said associated network addresses and said database switching module further includes: monitoring means for monitoring a plurality database servers for server status and server resource usage (column 42, lines 24-28); mapping means for changing the associations between database services and network addresses as a function said server status and said server resource usage (column 263, lines 1-12).

As per claim 31, Krishnaswamy et al. teaches wherein said mapping means is adapted for changing the associations between database services and network addresses as a function of server resource usage (column 263, lines 1-12) and said management resource objective of load balancing in order to balance the server resource usage over a plurality of database servers (column 45, lines 44-51).

As per claim 32, Krishnaswamy et al. teaches wherein said mapping means is adapted for changing the associations between database services and network addresses as a function of server resource usage (column 263, lines 1-12) and said management resource objective of quality of service in order to make server resources available to provide a predefined level of quality of service (column 127, lines 29-37).

As per claim 33, Krishnaswamy et al. teaches wherein said predefined level of quality of service is measured as a function of allocated server resources (column 127, lines 29-45).

As per claim 34, Krishnaswamy et al. teaches wherein said predefined level of quality of service is measured as function of a quantity of database server operations processed in a specified unit of time (column 29, lines 25-35).

As per claim 35, Krishnaswamy et al. teaches wherein said predefined level of quality of service is measured as a function of a unit of time used to complete a database server operations or set of database server operations (column 29, lines 25-35).

As per claim 36, Krishnaswamy et al. teaches wherein said mapping means is adapted for changing the associations between database services and network addresses as a function of server resource usage (column 263, lines 1-12) and said management resource objective of high availability in order to provide that a database service is available from an alternative database server if said monitoring means detects that a database server providing said database service experiences a failure (column 133, lines 13-22).

As per claim 37, Krishnaswamy et al. teaches wherein said mapping means is adapted for changing the associations between database services and network addresses as a function of server resource usage (column 263, lines 1-12) and said management resource objective of scalability in order to distribute database resource

usage over additional database resources added to the database area network (column 263, lines 13-22).

As per claim 38, Krishnaswamy et al. teaches wherein said database switching system includes a database area network administration module adapted for controlling administrative access to devices and services connected to the database area network (column 41, line 63-column 42, line 9).

As per claim 39, Krishnaswamy et al. teaches wherein said database area network administration module provides a plurality of levels of access (column 51, lines 39-50), including a first level which provides access to all devices or services included in said database area network; and a second level of access which provides access to specific databases and their associated instances (column 51, lines 13-24).

As per claim 40, Krishnaswamy et al. teaches wherein said database area network administration module is adapted for controlling access by a first network device connected to said data area network to a second network device connected to said data area network (column 51, lines 39-50).

Claims 41-112 are rejected under Krishnaswamy et al. accordingly as applied to the claims above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Clubb et al. (2001/0034791) teaches a system and method for forwarding messages to multiple devices or over multiple paths. Bonefas et al.

(2002/0052968) teaches a messaging method and apparatus for routing messages in a client server environment over multiple wireless and wireline networks. Gleeson et al. (6,763,023) teaches a network switch with self-learning routing facility. Laursen et al. (5,805,804) teaches a method and apparatus for scalable, high bandwidth storage retrieval and transportation of multimedia data on a network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ranodhi Serrao whose telephone number is (571)272-7967. The examiner can normally be reached on 8:00-5:30pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571)272-3880. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER